

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. -32. (cancelled)

33. (new) A method for adjusting a credit count in a credit based flow control system, the credit based flow control system having a credit head end and a credit queue end, the method comprising the steps of:

assigning an initial credit count of credits in the credit head end, each credit representing a permission to send a unit of data from the credit head end to the credit queue end;

initializing a credit count to be equal to the initial credit count;

decrementing the credit count for every unit of data sent from the credit head end to the credit queue end;

sending a credit return message including a returned credit number, the returned credit number indicating a number of units of data removed from a queue at the credit queue end;

incrementing the credit count in the credit head end by the returned credit number received from the credit queue end;

sending a credit check message from the credit head end to the credit queue end;

initializing a credit owed counter with a number of outstanding credits;

receiving, at the credit head end, the credit return message including the returned credit number;

decrementing the credit owed counter based on the returned credit number;

determining a loss or a gain in the credits used in the credit based flow control system using the credit owed counter and the returned credit number; and

adjusting the credit count based on the loss or the gain.

34. (new) The method according to claim 33, further comprising the steps of:

providing a rolling count at the credit queue end;

removing a unit of data from a queue at the credit queue end;

incrementing the rolling count for the unit of data removed from the queue;
and

calculating the returned credit number using the rolling count.

35. (new) The method according to claim 33, further comprising the steps of:

providing an update threshold and a delta count at the credit queue end;

generating the credit return message when the delta count is greater than the update threshold; and

resetting the delta count after sending the credit return message.

36. (new) The method according to claim 33, wherein the number of outstanding credits is the initial credit count minus the credit count.

37. (new) The method of claim 33, wherein the credit check message is multiplexed with data.

38. (new) The method according to claim 33, wherein the initial credit count is set manually, by the system or predefined.

39. (new) The method according to claim 33, further comprising the step of providing a flow control based on the credit count.

40. (new) A credit based flow control system comprising:

a credit head end and a credit queue end;

the credit head end comprising:

a receiver receiving a credit return message including a returned credit number;

a credit counter initializing a credit count to be equal to a initial credit count of credits, each credit representing a permission to send a unit of data from the credit head end to the credit queue end; the credit counter decrementing the credit count for every unit of data sent from the credit head end to the credit queue end and incrementing the credit count by a returned credit number received from the credit queue end;

a sender sending a credit check message to the credit queue end;

a credit owed counter initialized with a number of outstanding credits; and decremented by the returned credit number;

the credit queue end comprising:

a queue receiving units of data from the credit head end ;

a credit return sender sending the credit return message including the returned credit number, the returned credit number indicating a number of units of data removed from the queue;

wherein a loss or a gain in the credits used in the credit based flow control system is determined using the credit owed counter and the returned credit number; and the credit count is adjusted based on the loss or the gain.

41. (new) The system as claimed in claim 40 wherein the credit queue end further comprises a rolling count, the rolling count incremented for a unit of data removed from the queue; wherein the returned credit number is calculated using the rolling count.
42. (new) The system as claimed in claim 40, wherein the credit head end further comprises an update threshhold and a delta count, and wherein the credit return message generated when the delta count is greater than the update threshhold; and the delta count is reset after the credit return message is sent.

43. (new) The system as claimed in claim 40 , wherein the credit head end further comprises a flow control based on the credit count.
44. (new) The system as claimed in claim 40 , wherein the number of outstanding credits is the initial credit count minus the credit count.
45. (new) The system as claimed in claim 40, wherein the credit check message is multiplexed with data.
46. (new) The system as claimed in claim 40, wherein the initial credit count is set manually, by the system or predefined.
47. (new) A machine readable storage medium comprising a plurality of instructions for causing a computer to c:
 - assign an initial credit count of credits in a credit head end, each credit representing a permission to send a unit of data from the credit head end to a credit queue end;
 - initialize a credit count to be equal to the initial credit count;
 - decrement the credit count for every unit of data sent from the credit head end to the credit queue end;
 - send a credit return message including a returned credit number, the returned credit number indicating a number of units of data removed from a queue at the credit queue end;
 - increment the credit count in the credit head end by the returned credit number received from the credit queue end;
 - send a credit check message from the credit head end to the credit queue end;
 - initialize a credit owed counter with a number of outstanding credits;
 - receive, at the credit head end, the credit return message including the returned credit number;
 - decrement the credit owed counter based on the returned credit number;

determining a loss or a gain in the credits used in the credit based flow control system using the credit owed counter and the returned credit number; and

adjust the credit count based on the loss or the gain.

48. (new) The machine readable storage medium of claim 47 comprising a plurality of instructions for causing a computer to:

provide a rolling count at the credit queue end;

remove a unit of data from a queue at the credit queue end;

increment the rolling count for the unit of data removed from the queue; and

calculate the returned credit number using the rolling count.

49. (new) The machine readable storage medium of claim 47 comprising a plurality of instructions for causing a computer to:

provide an update threshhold and a delta count at the credit queue end;

generate the credit return message when the delta count is greater than the update threshhold; and

reset the delta count after sending the credit return message.

50. (new) The storage medium according to claim 47, wherein the number of outstanding credits is the initial credit count minus the credit count.

51. (new) The storage medium according to claim 47, wherein the credit check message is multiplexed with data.

52. (new) The storage medium according to claim 47, wherein the initial credit count is set manually, by the system or predefined.

53. (new) The machine readable storage medium of claim 47 comprising a plurality of instructions for causing a computer to provide a flow control based on the credit count.